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ALSO, ACLS OB, ObLS Obstetric life Support

The stress of simultaneously caring for two patients (mother and fetus), coupled with the physiologic changes in women during pregnancy make the management of maternal cardiopulmonary arrest complex and challenging. Although cardiopulmonary arrest is a rare occurrence in pregnant women, it is crucial that obstetrical healthcare providers are trained to quickly assess and respond to life threatening obstetrical emergencies and cardiac arrest

There are specific causes of cardiac arrest that are unique to pregnant women. Those causes have obstetric and non-obstetric etiologies. See table below

Table 1

Obstetric etiologies	Non-obstetric etiologies	Adverse events maternal care
Maternal Hemorrhage	Septic Shock	Magnesium Sulfate Toxicity
Preeclampsia /Eclampsia	Cardiovascular diseases	Anesthetic Complications
HELLP Syndrome	Endocrine Disorders (diabetes, hyperthyroidism)	
Amniotic fluid /Pulmonary Embolus	Collagen Vascular Diseases (lupus)	

The physiologic changes occurring in pregnancy can complicate resuscitation efforts. During pregnancy the mucosal lining of the pharynx and larynx become edematous and the tissue is fragile making intubation difficult. The enlarged uterus and hormonal changes cause GI reflux and prolonged gastric emptying, thus increasing the

risk for aspiration. The enlarged uterus at approximately 20 weeks gestation and beyond is heavy enough to compress the aorta and vena cava against the spine. This compression causes a decrease in venous return, stroke volume and cardiac output. Therefore, greater force will be needed during chest compressions to generate measureable output. Any of these physiologic changes can be profound and have a major impact on the ability to successfully resuscitate a pregnant woman.

There are several programs that are designed to train staff in obstetrical resuscitations. These programs differ from standard basic life support and advanced cardiac life support in that along with teaching cardiopulmonary resuscitation, drug therapies, and rhythm identification, these programs include training and skill acquisition necessary for obstetrical emergencies. ALSO, ACLS OB and ObLS are three such programs. These programs focus on obstetrical complications; malpresentations, labor dystocia, first and late trimester vaginal bleeding. Along with complications surrounding post partum hemorrhage, cord prolapse, shoulder dystocia, vacuum and forceps deliveries. Care of high risk patients like those with pre eclampsia or eclampsia is discussed along with teaching maternal and neonatal resuscitation and setting up for and performing perimortem cesarean delivery

Anatomic and physiologic changes during pregnancy require several additions to the ACLS algorithm. Obstetrical healthcare providers must be aware of these changes and how they affect the resuscitation. Since cardiac arrest is a rare on pregnancy on going drills, simulations and specialized obstetric focused advanced life saving programs will improve provider readiness and improve patient outcomes.

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Further information can be found at:

ALSO www.aafp.org/ALSO

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